

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of : Kenneth L. Justice  
For : CABLE CONNECTOR FOR WELDER OR  
WIRE FEEDER  
Serial No. : 10/619,764  
Filing Date : July 15, 2003  
Examiner : Ross N. Gushi  
Group Art Unit : 2833  
Our Docket No. : LEE 2 00309

**APPEAL BRIEF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

on 2-17-05

Adeline Machado  
(SIGNATURE)

Dear Sir:

The present appeal is from the decision of the examiner dated November 30, 2004, finally rejecting claims 1, 2, 7-21 and 23-64 in the above-identified patent application. No claims are allowed.

**I. REAL PARTY IN INTEREST**

Lincoln Global, Inc. is the real party in interest as assignee of the named inventors.

**II. RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences.

**III. STATUS OF THE CLAIMS**

The above-identified patent application presently contains claims 1, 2, 7-21 and 23-44 and 46-64. The examiner, in the Final Office Action, rejected claims 1, 2, 7, 14, 16, 18, 19, 21 and 23

under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (APA) in view of Ellis 5,439,386 and Haag 6,358,076, Liao 5,308,259 and Chow 3,680,034. Claims 8-10 were rejected under 35 U.S.C. 103(a) as being unpatentable over the APA in view of Ellis '386, Haag '076, Liao '259, Chow '034 and Herrmann 4,090,759. Claim 11 was rejected under 35 U.S.C. 103(a) as being unpatentable over the APA in view of Ellis '386, Haag '076, Liao '259, Chow '034 and Glover 3,824,526. Claims 12, 13, 15, 17 and 20 and 23-64 were rejected under 35 U.S.C. 103(a) as being unpatentable over the APA in view of Ellis '386, Haag '076, Liao '259, Chow '034, Herrmann '759 and Glover '526. The examiner rejected claim 45; however, claim 45 was canceled in the amendment filed on June 7, 2004.

Claims 1, 2, 7-21 and 23-44 and 46-64 are the subject of this Appeal. Appellant has included one set of the appealed claims in the Appendix of Claims.

#### **IV. STATUS OF AMENDMENTS**

Appellant filed the above-identified patent application on July 15, 2003, which included 63 claims. On September 5, 2003, a Preliminary Amendment was entered to correct several errors in the specification. No amendment to the claims were made in the Preliminary Amendment. On May 6, 2004, Appellant entered an Amendment in response to an Office Action mailed April 9, 2004, the May 6 Amendment canceled claims 3-6 and 22, amended claims 1, 2, 7-21, 23-44, 49, 50 and 55-61 and added new claim 64. On June 7, 2004, Appellant entered an Amendment After Final in response to the Final Office Action mailed May 21, 2004. The Amendment After Final canceled claim 45 and amended claims 1, 2, 11-17, 21, 25-28, 32, 33, 36-41, 44, 46-48, 53, 54, 60 and 61. The Advisory Action mailed on June 18, 2004 indicated that the amendments to the claims in the Amendment After Final would be entered for purposes of appeal.

Applicant filed a Notice of Appeal on August 12, 2004 to appeal the final rejection of the

claims. An Appeal Brief was filed on August 30, 2004. On September 29, 2004, an Office Action was mailed which resulted in the prosecution of the patent application being reopened. The basis of the rejection was the same as in the Final Office Action mailed May 21, 2004 except that Haag '076, Liao '259 and Chow '034 were substituted for Ellis '386. Appellant filed an Amendment on October 20, 2004 which amended claims 1, 16, 17, 21, 40, 41, 44, 60 and 61. On November 30, 2004, a Final Office Action was mailed which rejected all of the pending claims. No further amendments to the claims have been made by Appellant.

## **V. SUMMARY OF THE INVENTION**

The present invention relates to a welder cable coupler which is used to connect an electrical cable to a welder housing and/or a wire feeder housing. (P. 1, lns. 3-5). The welder cable coupler is designed to quickly, easily and conveniently connect and disconnect an electrical cable to and from the welder or wire feeder. (P. 1, lns. 8-10). The welder cable coupler on the housing of the welder and/or wire feeder is designed such that it can connect and/or disconnect standard cable connectors to the welder or wire feeder without any modification to existing electrical cables or the associated cable connector on the electrical cable. (P.1, lns. 10-13).

The welder cable coupler is designed to allow a cable connector on an electrical cable to be substantially inserted onto the cable connector prior to a connector member on the welder cable coupler engaging the cable connector to thereby secure the cable connector to the welder cable coupler. (P. 1, lns. 16-18). In prior designs, welder cable couplers only allowed the connector on the welder cable to be positioned essentially on the face of the welder cable coupler and a connecting member was then used to engage the cable connector to secure the cable connector to the welder cable coupler and to cause the male and female electrical connectors which were associated with the welder cable coupler and cable connector to subsequently engage with one another to form an

electrical connection. (P. 1, lns. 18-23; P. 8, ln. 23 - P. 9, ln. 8; Figures 1-3). The welder cable coupler of the present invention allows the cable connector on an electrical cable to be substantially inserted onto the welder cable coupler prior to a connector on the welder cable coupler engaging the cable connector to secure the cable connector to the welder cable coupler. (P.1, lns. 23-26; P. 12, lns. 16-22; Figure 6).

The welder cable coupler is designed such that the connector member on the welder cable coupler can be disengaged from the cable connector while the cable connector is still substantially connected to the welder cable coupler. (P.2, lns. 8-10). In prior art welder cable coupler designs, when the connection member was unthreaded from the cable connector on an electrical cable, the cable connector was essentially disengaged at that point from the welder cable coupler. (P. 2, lns. 10-12; Figures 1-3). The welder cable coupler of the present invention does not cause the cable connector to substantially disengage from the welder cable coupler after the connecting mechanism on the welder cable coupler has been disengaged from the cable connector. (P.2, lns. 12-14).

The welder cable coupler includes a coupling sleeve that is designed to move at least partially axially along the length of the welder cable coupler and to engage the cable connector when at least a majority of the cable connector is inserted onto the welder cable coupler. (P. 3, lns. 18-21; P. 12, ln. 25 - P. 13, ln. 7). The coupling sleeve also includes a connecting member which is designed to engage with a connecting member on the cable connector to thereby at least partially secure the cable connector to the welder cable coupler. (P.1, lns. 21-23). In one non-limiting design, the connector member is in the form of at least one thread on the welder cable coupler which is designed to mate with a corresponding thread on a portion of the outer surface of the cable connector of the electrical cable. (P. 3, lns. 24-26).

The coupling sleeve includes a joining cavity wherein the connection member is at least

partially inserted therein. (P. 1, lns. 27-28). The joining cavity is designed to at least partially telescopically receive a portion of the cable connector and to thereafter secure the cable connector to the welder cable coupler by the use of the connection member that is at least partially located in the joining cavity. (P. 3, ln. 28 - P. 4, ln. 3). In one non-limiting design, the joining cavity has a beveled surface that is adapted to facilitate in at least partially guiding the coupling sleeve about a portion of the cable connector to facilitate in the connecting of the cable connector to the welder cable coupler. (P. 4, lns. 3-6; P. 11, lns. 12-13; P. 12, lns. 24-25; Figures 5-9). The connecting member located in the joining cavity is typically positioned rearwardly of this beveled surface. (P. 4, lns. 6-8; Figures 5-9).

The coupling sleeve on the welder cable coupler has a design which facilitates in the ease of rotation of the coupling sleeve on the welder cable coupler to thereby facilitate in the connecting and disconnecting of the electrical cable to and from the welder cable coupler. (P. 4, lns. 9-12). The coupling sleeve can include at least one gripping arrangement that is designed to facilitate in the ease of gripping the coupling sleeve. (P. 4, lns. 12-14). The gripping element can be in the form of at least one node, which protrudes outwardly from the center of the coupling sleeve. (P. 4, lns. 14-15). In one non-limiting design, there is provided a plurality of nodes on the coupling sleeve arranged to form a star-like configuration. (P. 4, lns. 15-17; P. 11, lns. 8-11; Figures 4, 8 and 9).

The welder cable coupler can include at least one orientation member which is used to properly orient the cable connector relative to the welder cable coupler prior to the cable connector being inserted onto the welder cable coupler. (P. 4, lns. 20-22; P. 12, lns. 5-16; Figures 4 and 8). Typically, the welder cable coupler and the cable connector include a plurality of electrical connections. (P. 4, lns. 22-23). Each of these electrical connections typically has a particular function (e.g. power conveyance, control signal conveyance, electrical grounding, etc.). (P. 4, lns.

23-25). As such, it is important that the proper connections are made between the cable connector and the welder cable coupler. (P. 4, lns 25-26). The guide member on the welder cable coupler is designed to require the cable connector to be properly oriented such that the appropriate electrical connections on the welder cable coupler and cable connector are electrically connected together when the welder cable coupler is secured to the welder cable coupler. (P. 4, ln. 26 - P. 5, ln. 1). In one non-limiting design, the welder cable coupler includes a guide slot which is designed to receive a guide nub or tooth on the cable connector. (P. 5, lns. 6-7). This slot-tooth arrangement ensures the proper orientation of the cable connector to the welder cable coupler when the cable connector is inserted onto the welder cable coupler. (P. 5, ln. 7-9).

## **VI. THE ISSUES**

1. Whether Ellis '386 is nonanalogous art.
2. Whether Liao '259 is nonanalogous art.
3. Whether Chow '034 is nonanalogous art.
4. Whether Glover '526 is nonanalogous art.
5. Whether Herrmann '759 is nonanalogous art.
6. Whether claims 1, 2, 7, 14, 16, 18, 19, 21 and 23 under 35 U.S.C. 103(a) are unpatentable over the APA in view of Ellis '386, Haag '076, Liao '259 and Chow '034.
7. Whether claims 8-10 under 35 U.S.C. 103(a) are unpatentable over the APA in view of Ellis '386, Haag '076, Liao '259, Chow '034 and Herrmann '759.
8. Whether claim 11 under 35 U.S.C. 103(a) is unpatentable over the APA in view of Ellis '386, Haag '076, Liao '259, Chow '034 and Glover '526.
9. Whether claims 12, 13, 15, 17, 20 and 23-64 under 35 U.S.C. 103(a) are unpatentable over the APA in view of Ellis '386, Haag '076, Liao '259, Chow '034, Herrmann '759 and Glover

'526.

## **VII. GROUPING OF CLAIMS**

The claims do not stand and fall together. Appellant sets forth the following grouping of claims:

1. Claims 1, 2, 14 and 16.
2. Claim 7.
3. Claim 8.
4. Claim 9.
5. Claim 10.
6. Claim 11.
7. Claim 12.
8. Claims 13, 15 and 17.
9. Claim 18.
10. Claim 19.
11. Claim 20.
12. Claims 21, 23, 24, 27, 29, 38 and 40.
13. Claim 25.
14. Claims 26, 28 and 30.
15. Claim 31.
16. Claim 32.
17. Claim 33.
18. Claim 34.
19. Claim 35.

- 20. Claim 36.
- 21. Claims 37, 39 and 41.
- 22. Claim 42.
- 23. Claim 43.
- 24. Claims 44, 46, 51, 53, 55, 58 and 60.
- 25. Claim 47.
- 26. Claim 48.
- 27. Claim 49.
- 28. Claims 50, 52, 54, 56, 59 and 61.
- 29. Claim 57.
- 30. Claim 62.
- 31. Claim 63.
- 32. Claim 64.

#### **VIII. PRIOR ART RELIED UPON**

- A.** Admitted Prior Art (APA) - United States Patent Application Serial No. 10/619,764 filed July 15, 2003 - entitled "Cable Connector for Welder or Wire Feeder".
- B.** United States Patent No. 5,439,386 (Ellis '386) issued August 8, 1995 - entitled "Quick Disconnect Environmentally Sealed RF Connector for Hardline Coaxial Cable," Class 439, subclass 322.
- C.** United States Patent No. 5,308,259 (Liao '259) issued May 3, 1994 - entitled "Communication Plug," Class 439, subclass 320.
- D.** United States Patent No. 6,358,076 (Haag '076) issued March 19, 2002 - entitled "Twist-Lock Connector For electrical Plug and Wall Socket," Class 439, subclass 320.



E. United States Patent No. 3,680,034 (Chow '034) issued July 25, 1972 - entitled "Connector-Universal," Class 339, subclass 48.

F. United States Patent No. 4,090,759 (Herrmann '759) issued May 23, 1978 - entitled "Micro-Miniature Circular High Voltage Connector," Class 339, subclass 60.

G. United States Patent No. 43,824,526 (Glover '526) issued July 16, 1974 - entitled "Positive Stop High Voltage Connector," Class 339, subclass 94R.

## IX. ARGUMENT

### A. THE FIRST ISSUE

It is respectfully submitted that the examiner's final rejection of claims 1, 2, 7-21, 23-44 and 46-64 based in part on Ellis '386 is in error. Appellant submits that Ellis '386 is nonanalogous art to the welder cable coupler defined in appealed claims 1, 2, 7-21, 23-44 and 46-64 of the above-identified patent application.

A reference that is deemed nonanalogous cannot be used to support a *prima facie* case for obviousness. *In re Oetiker*, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992).

For a reference to be relied upon as a basis for rejecting an invention, the reference must either be in the field of the applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor is concerned. *Oetiker*, 24 USPQ2d at 1445. The examiner must consider the reality of the circumstances—use common sense—in deciding which fields a person of ordinary skill would reasonably be expected to look for a solution to the problem facing the inventor. *Oetiker*, 24 USPQ2d at 1446.

In order to determine whether a reference is reasonably pertinent to the inventor's field of endeavor, one looks to, among other things, the problem confronting the inventor. *Orthopedic Equipment Co. v. United States*, 217 USPQ 193, 196 (Fed. Cir. 1983).

Ellis '386 is directed to a sealed quick disconnect RF coupler for use with hardline coaxial cable. (See Abstract). Ellis '386 has nothing to do with welding, much less couplers for welders. As such, Ellis '386 is not in Appellant's field of endeavor.

Ellis '386 also would not be used by one skilled in the art of welding, charged with the task of improving the way in which cables are connected to welders or wire feeders for welders, to solve a connection problem associated with welding cables. The issues associated with coaxial cable are different from the issues associated with welding cables and the connection of welding cables to a welder or wire feeder.

The examiner asserted that Ellis '386 is an electric cable connectors, thus analogous art. The examiner justifies this statement by asserting that the invention and the electrical cable connector of Ellis '386 includes a rotatable threaded coupling sleeve, thus prior art classified in class 439/320 is analogous art. Even if the examiner's characterization of the relevant art is correct, Ellis '386 is classified in class 439/322, not 439/320. As such, by the examiner's own definition of analogous art, Ellis '386 is not analogous art.

Appellant submits that the field of electric couplers as defined by the examiner is too broad. (See *Oetiker* wherein Federal Circuit held that hook and eye fasteners in the garment industry were nonanalogous to hooks for hoses). In a society that manufactures and uses hundreds of thousands of different electronic devices and electric powered devices, it is unreasonable that one skilled in the art would look to every type of electric coupler to solve a problem associated with a particular type of coupler, namely a welder cable coupler. Each electrical device and coupler for such device has its own particular needs and limitations (e.g., shielding issues, resistance issues, heating issues, size issues, current issues, voltage issues, sealing issues, etc.).

Ellis '386 is directed to the particular issue of a sealed quick disconnect RF coupler for

coaxial cable. Coaxial cable is used to transmit audio-visual signals. These signals are low current signals. The coaxial cable is shielded to prevent surrounding noise from adversely affecting the audio-visual signals. Coaxial cable is not used and cannot be used as welding cable since the coaxial cable is not designed to transmit large currents as required in a welding application. Indeed, the coaxial cable would be damaged if used as a welding cable.

Appellant submits that one skilled in the art of welders would look to art pertaining to welders or high current couplers when attempting to solve a problem associated with welder cable couplers. Welding cables are large electrical cables that are designed to transmit large currents from the welder or wire feeder to a welding gun. The welding cable includes a plurality of electrical couplers that are used to transmit the large electric currents. The welding cable can also include additional electrical connectors used to transmit control or monitoring signals between the welder or wire feeder and welding gun to facilitate in the operation of the electric welder. Appellant submits that art pertaining to cables that include multiple electrical connections and that are used to transmit large currents would be pertinent to problems associated with welding cables.

It is unreasonable and unrealistic for a person of ordinary skill in the art, seeking to solve a problem associated with welder cable couplers, to be expected or motivated to look to coaxial cable couplers or any type of low current electrical connector for a solution to such problem. Indeed, coaxial cable technology only pertains to a single connection, not multiple electrical connections as required for welding cables.

The Federal Circuit has defined a two part test for determining whether a reference is analogous. If a reference is not in the field of the applicant's endeavor or, is not reasonably pertinent to the particular problem with which the inventor is concerned, then the reference is not analogous art. See *Oetiker*. As set forth above, Ellis '386 does not meet either of these standards for analogous

art. The fact Ellis '386 may have some similar features to the welder cable coupler defined in the claims on appeal does not result in Ellis '386 being considered analogous art. Indeed, by the examiner's own definition of the relevant prior art, Ellis'386 is not analogous prior art.

In view of the fact that Ellis '386 is not analogous art, Appellant requests that the rejection of all the claims on appeal be withdrawn.<sup>1</sup>

## **B. THE SECOND ISSUE**

It is respectfully submitted that the examiner's final rejection of claims 1, 2, 7-21, 23-44 and 46-64 based in part on Liao '259 is in error. Appellant submits that Liao '259 is nonanalogous art to the welder cable coupler defined in appealed claims 1, 2, 7-21, 23-44 and 46-64 of the above-identified patent application.

As set forth above, a reference that is deemed nonanalogous cannot be used to support a *prima facie* case for obviousness. See *Oetiker*. A reference must either be in the field of the applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor is concerned for such reference to be used to support a rejection of a claim. *Id.*

Liao '259 is directed to a communication plug, namely a microphone plug. The problem set forth in Liao '259 is to make a low cost plug, that does not require plating and which is light weight and insulated. (Col. 1, lns. 29-37). Liao '259 has nothing to do with welding, much less couplers for welders. As such, Liao '259 is not in Applicant's field of endeavor. As noted above, the examiner characterized the analogous prior art as a rotatable threaded coupling sleeves classified in

---

<sup>1</sup>The examiner stated that arguments against references individually cannot be used to overcome an obviousness rejection wherein the attached reference is being used in combination with other references. (P. 6) Appellant disagrees. The basis of the examiner's obviousness rejection is founded on the combination of the teachings of all the references. If one or more of the relied upon references is nonanalogous, contains teachings contrary to the claimed invention, etc., then the basis for the rejection which relies on the combination of the references cannot be sustained.

class 439/320. As such, by the examiner's own definition of analogous art, Liao '259 is not analogous art.

The communication plug disclosed in Liao '259 is not a teaching that would be used by one skilled in the art of welding, charged with the task of improving the way in which cables are connected to welders or wire feeders for welders, to solve a connection problem associated with welding cables. Indeed, it is unreasonable and unrealistic to assert that one skilled in the art of welding, charged with the task of improving the way in which cables are connected to welders or wire feeders for welders, would be expected or motivated to look at a microphone connector to find a solution to a welding cable issue. The issues associated with microphone plugs are different from the issues associated with welding cables and the connection of welding cables to a welder or wire feeder.

The examiner stated that Liao '259 teaches ribs on ring 20. The examiner then alleged that Liao '259 was one example of the many connectors that includes a plurality of nodes in a star shape to facilitate in manual rotation.

A reference is analogous if such reference is in the field of the applicant's endeavor or, is reasonably pertinent to the particular problem with which the inventor is concerned. See *Oetiker*. As set forth above, Liao '259 does not meet either of these standards for analogous art. The examiner's attempted use of Liao '259 as prior art to support a rejection of the claims of appeal appears to represent hindsight reconstruction of Appellant's invention. The combination of elements from nonanalogous sources, in a manner that reconstructs a claim only with the benefit of hindsight, is insufficient to present a *prima facie* case of obviousness. *Oetiker*, 24 USPQ2d at 1446.

In view of the fact that Liao '259 is not analogous art, Appellant requests that the rejection of all the claims on appeal be withdrawn.

### C. THE THIRD ISSUE

It is respectfully submitted that the examiner's final rejection of claims 1, 2, 7-21, 23-44 and 46-64 based in part on Chow '034 is in error. Appellant submits that Chow '034 is nonanalogous art to the welder cable coupler defined in appealed claims 1, 2, 7-21, 23-44 and 46-64 of the above-identified patent application.

As set forth above, a reference that is deemed nonanalogous cannot be used to support a *prima facie* case for obviousness. See *Oetiker*. A reference must either be in the field of the applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor is concerned for such reference to be used to support a rejection of a claim. *Id.*

Chow '034 is directed to a connector for a coaxial cable or air line. The problem set forth in Chow '034 is to make a universal connector for connecting line sections formed of two identical sections that can be connected together. (Col. 1, lns. 4-8). Chow '034 has nothing to do with welding, much less couplers for welders. As such, Chow '034 is not in Applicant's field of endeavor. As noted above, the examiner characterized the analogous prior art as a rotatable threaded coupling sleeve classified in class 439/320. As such, by the examiner's own definition of analogous art, Chow '034 is not analogous art.

The connector for a coaxial cable or air line disclosed in Chow '034 is not a teaching that would be used by one skilled in the art of welding, charged with the task of improving the way in which cables are connected to welders or wire feeders for welders, to solve a connection problem associated with welding cables. Indeed, it is unreasonable and unrealistic to assert that one skilled in the art of welding, charged with the task of improving the way in which cables are connected to welders or wire feeders for welders, would be expected or motivated to look at a connector for a coaxial cable or air line to find a solution to a welding cable issue. The issues associated with a

connector for a coaxial cable or air line microphone plugs is different from the issues associated with welding cables and the connection of welding cables to a welder or wire feeder.

The examiner stated that Chow '034 teaches gripping rings on coupling ring 26. The examiner then alleged that Chow '034 was one example of the many connectors that includes a plurality of nodes in a star shape to facilitate in manual rotation.

A reference is analogous if such reference is in the field of the applicant's endeavor or, is reasonably pertinent to the particular problem with which the inventor is concerned. See *Oetiker*. As set forth above, Chow '034 does not meet either of these standards for analogous art. The examiner's attempted use of Chow '034 as prior art to support a rejection of the claims of appeal appears to represent hindsight reconstruction of Appellant's invention. The combination of elements from nonanalogous sources, in a manner that reconstructs a claim only with the benefit of hindsight, is insufficient to present a *prima facie* case of obviousness. *Oetiker*, 24 USPQ2d at 1446.

In view of the fact that Chow '034 is not analogous art, Appellant requests that the rejection of all the claims on appeal be withdrawn.

#### **D. THE FOURTH AND FIFTH ISSUES**

It is respectfully submitted that the examiner's final rejection of claims 8-13, 15, 17, 20, 23-44 and 46-64 based in part on Herrmann '759 and/or Glover '526 is in error. Appellant submits that Herrmann '759 and Glover '526 are nonanalogous art to the welder cable coupler defined in appealed claims 8-13, 15, 17, 20, 23-44 and 46-64 of the above-identified patent application.

As established, a reference that is deemed nonanalogous cannot be used to support a *prima facie* case for obviousness. See *Oetiker*. A reference must either be in the field of the applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor is concerned for such reference to be used to support a rejection of a claim. *Id.*

Both Herrmann '759 and Glover '526 pertain to miniature high voltage micro-connectors. Specifically, Herrmann '759 discloses a micro-miniature circular high voltage connector that is designed to interconnect a plurality of high voltage leads in a minimal amount of space without allowing short circuiting or arcing between the leads. (Col. 1, lns. 4-65). Glover '526 is directed to a miniature high voltage connector that has a positive stop and a low coefficient of friction to prevent decimation of an O-ring and consequent connector breakdown. (Col. 1, lns. 3-45).

Herrmann '759 and Glover '526 have nothing to do with welding or couplers used to connect a welding cable to a welder or wire feeder. As such, Herrmann '759 and Glover '526 are not in Appellant's field of endeavor. As noted above, the examiner characterized the analogous prior art as a rotatable threaded coupling sleeve classified in class 439/320. As such, by the examiner's own definition of analogous art, Herrmann '759 and Glover '526 are not analogous art.

In addition, Herrmann '759 and Glover would not be used by one skilled in the art of welding, charged with the task of improving the way in which cables are connected to welders or wire feeders for welders, to find a solution to a welding cable issue. The issues associated with miniature high voltage connectors are different from the issues associated with welding. The connections associated with welding cables are not miniature connections or high voltage connections. The welding cable is design to transmit large currents and voltages that are typically less than 120 V. The special issues associated with small high voltage connections do not exist for welder cable couplers. Indeed, the problems associated with welding cables that were addressed by Appellant in the claims on appeal have nothing to do with the problems associated with high voltage connectors, minimizing the size of the high voltage connectors and/or preventing the decimation of an O-ring and subsequent connector failure that are addressed in Herrmann '759 and Glover '526.

In view of the fact that Herrmann '759 and Glover '526 are nonanalogous art, Appellant



submits that the rejection of the claims based on a combination of references that included Herrmann '759 and/or Glover should be withdrawn. Therefore, the rejection of claims 8-13, 15, 17, 20 and 23-64 is improper and should be withdrawn.

#### **E. THE SIXTH ISSUE**

The examiner's final rejection of claims 1, 2, 7, 14, 16, 18, 19, 21 and 23 under 35 U.S.C. 103(a) as being unpatentable over the APA in view of Ellis '386, Haag '076, Liao '259 and Chow '034 is in error. The APA in view of Ellis '386, Haag '076, Liao '259 and Chow '034 do not disclose, teach or suggest the welder cable coupler defined in claims 1, 2, 7, 14, 16, 18, 19, 21 and 23.

##### **1. Reference Combination Does Not Disclose, Teach or Suggest the Claimed Invention**

Appellant submits that the APA in view of Ellis '386, Haag '076, Liao '259 and Chow '034 do not disclose, teach, or suggest a welder cable coupler that satisfies all the limitations of independent claims 1 and 21. Appellant further submits that the limitations in dependent claims 2, 7, 14, 16, 18, 19 and 23 are also not taught, suggested, or disclosed in the APA in view of Ellis '386, Haag '076, Liao '259 and Chow '034.

To reject claims in an application under 35 U.S.C. 103, there must be a showing of an un rebutted *prima facie* case of obviousness. *In re Deuel*, 34 USPQ2d 1210, 1214 (Fed. Cir. 1995). In the absence of a proper *prima facie* case of obviousness, inventors who comply with the other statutory requirements are entitled to a patent. *Oetiker*, 24 USPQ2d at 1444.

Section 103 specifically requires consideration of the claimed invention "as a whole." *Ruiz v. A.B. Chance Co.*, 69 USPQ2d 1686, 1690 (Fed. Cir 2004). Inventions typically are new combinations of existing principles or features. *Env'tl. Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 698 (Fed. Cir.1983) (noting that "virtually all [inventions] are combinations of old elements."). As

such, most, if not all, inventions arise from a combination of old elements. *In re Rouffet*, 47 USPQ2d 1453, 1457 (Fed. Cir. 1998). Consequently, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. *Id.* The "as a whole" instruction in Title 35 prevents evaluation of the invention part by part. *Ruiz*, 69 USPQ at 1690. Without this important requirement, an obviousness assessment might break an invention into its component parts (A + B + C), then find a prior art reference containing A, another containing B, and another containing C, and on that basis alone declare the invention obvious. *Id.* This form of hindsight reasoning, using the invention as a roadmap to find its prior art components, would discount the value of combining various existing features or principles in a new way to achieve a new result--often the very definition of invention. *Id.*

Section 103 precludes this hindsight discounting of the value of new combinations by requiring assessment of the invention as a whole. *Id.* A rejection under Section 103 also requires a showing that an artisan of ordinary skill in the art at the time of invention, confronted by the same problems as the inventor and with no knowledge of the claimed invention, would select the various elements from the prior art and combine them in the claimed manner. *Id.* In other words, the examiner must show some suggestion or motivation, before the invention itself, to make the new combination. *Rouffet*, 47 USPQ2d at 1456; *Dance*, 48 USPQ2d at 1637; *In re Gordon*, 221 USPQ 1125, 1127 (Fed. Cir. 1984). Without such teachings, the claims pending in the above-identified patent application cannot be shown to be invalid for obviousness. *Gambro Lundia AB v. Baxter Healthcare Corp.*, 42 USPQ2d 1378, 1383 (Fed. Cir. 1997) (absence of a suggestion to combine is dispositive of an obviousness determination).

Even when obviousness is based on a single prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference. *B.F. Goodrich Co. v. Aircraft*

*Breaking Sys. Corp.*, 37 USPQ2d 1314, 1318 (Fed. Cir. 1996).

A critical step in analyzing the patentability of claims pursuant to 35 U.S.C. §103(a) is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. *Dembiczak*, 50 USPQ2d at 1617. When the art in question is relatively simple, the opportunity to judge by hindsight is particularly tempting. Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher." *Id.*

The best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references." *Id.* See also *C.R. Bard, Inc. v. M3 Sys., Inc.*, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998) (describing "teaching or suggestion or motivation [to combine]" as an "essential evidentiary component of an obviousness holding"); *Rouffet*, 47 USPQ2d at 1459 ("the Board must identify specifically . . . the reasons one of ordinary skill in the art would have been motivated to select the references and combine them"); *In re Fritch*, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (The examiner can satisfy burden of obviousness in light of combination "only by showing some objective teaching [leading to the combination]"); *In re Fine*, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) (evidence of teaching or suggestion "essential" to avoid hindsight); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 227 USPQ 657, 667 (Fed. Cir. 1985) (district court's conclusion of obviousness was in error when it "did not elucidate any factual teachings, suggestions or incentives from this prior art that showed the propriety of combination").

Combining prior art references without evidence of such a suggestion, teaching, or

motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability--the essence of hindsight. *Interconnect Planning Corp. v. Feil*, 227 USPQ 543, 547 (Fed. Cir. 1985) ("The invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time."); *Diversitec Corp. v. Century Steps, Inc.*, 850 F.2d 675 (Fed. Cir. 1988).

The motivation, suggestion or teaching may come explicitly from statements in the prior art, the knowledge of one of ordinary skill in the art, or, in some cases, the nature of the problem to be solved. *Dembiczak*, 50 USPQ2d at 1617. In addition, the teaching, motivation or suggestion may be implicit from the prior art as a whole, rather than expressly stated in the references. *WMS Gaming, Inc. v. International Game Tech.*, 51 USPQ2d 1385, 1397 (Fed. Cir. 1999). The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art. *In re Keller*, 208 USPQ 871, 881 (CCPA 1981).

Irrespective of whether express or implicit showings are relied upon to reject claims under Section 103, there must be provided particular findings related thereto. *Dembiczak*, 50 USPQ2d at 1617. Broad conclusory statements standing alone are not "evidence" of obviousness. *Id.*, See also *McElmurry v. Arkansas Power & Light Co.*, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993); *In re Sichert*, 196 USPQ 209, 217 (CCPA 1977).

**a. Patentably Distinct Claim 1**

Claim 1 defines a welder cable coupler on a welder housing or wire feeder for conveniently connecting a welder cable to said welding housing or wire feeder. The welder coupler includes a coupling jacket that has an electrical coupling cavity that includes a plurality of electrical connectors positioned therein and a coupling sleeve rotatably positioned at least partially about the coupling

jacket. The coupling jacket is sized and shaped to be at least partially telescopically received in a cable connection sleeve of the welder cable coupler. The plurality of electrical connectors in the coupling cavity are designed to be electrically connected to corresponding electrical connectors in the cable connection sleeve at least when the coupling jacket is partially telescopically received in the cable connection sleeve. The coupling sleeve includes a gripping member and a joining cavity that has at least one thread. The joining cavity is designed to at least partially engage an outer threaded surface of the cable connection sleeve after a majority of the electrical coupling cavity is telescopically inserted in the cable connection sleeve. The gripping member is designed to facilitate in the rotation of the coupling sleeve on the coupling jacket. The gripping member includes a plurality of nodes substantially symmetrically oriented on the coupling sleeve to form a generally star-shaped configuration.

The examiner asserted in the Final Office Action that the APA disclosed all the limitations of claim 1 except that the joining cavity does not engage the outer threaded surface of the cable sleeve after a majority of the electrical coupling cavity is *at least partially*<sup>2</sup> telescopically inserted in the cable connection sleeve. Appellant disagrees.

As admitted by the examiner, the APA does not disclose a joining cavity designed to at least partially engage an outer threaded surface of the cable connection sleeve after a majority of the electrical coupling cavity is telescopically inserted in the cable connection sleeve. The APA disclosed that one of the problems encountered with prior welder cable couplers was the difficulty in properly connecting and disconnecting the cable from the welder or wire feeder. (P. 1, lns. 16-17).

---

<sup>2</sup>The examiner's characterization of claims 1 and 21 is incorrect. The limitation "at least partially" was removed from the claims in the amendment filed on October 20, 2004. The examiner's error appears to have resulted from the block copying of arguments from the Final Office Action mailed May 21, 2004 into the Final Office Action mailed November 11, 2004, which is the basis of this appeal.

This difficulty in connecting a welder cable to a welder was described as follows:

The cable connector connected to the cable was initially oriented and slightly inserted about a portion of the coupler mounted on the side of the welder or wire feeder. Once the cable connector was properly oriented with respect to the coupler, the cable connector was continuously pushed into the coupler while a coupling sleeve on the coupler was rotated thereby threading the cable connector onto the coupler. When done properly, this procedure usually took several minutes to complete the connection. When the cable was to be disconnected from a welder or wire feeder, the coupling sleeve once again had to be rotated while the cable connector was simultaneously being pulled from the coupler. Once again, this procedure was time consuming to complete. (P. 1, lns. 17-25).

The APA also disclosed the following concerning how a welder cable was connected to a welder:

In prior designs, the prior art cable coupler only allowed the cable connector on the cable to be positioned essentially on the face of the cable coupler and a connecting member was then immediately engaged with the cable connector to both secure the cable connector to the cable coupler and to cause the male and female electrical connectors which were associated with the cable coupler and cable connector to subsequently engage with one another to form an electrical connection. (P. 2, lns. 18-23).

The welder cable coupler disclosed in the present invention is distinguished from prior welder cable couplers in that "[C]ontrary to this prior art cable coupler design, the cable coupler of the present invention allows the cable connector on an electrical cable to be substantially inserted onto the cable coupler prior to a connector on the cable coupler having to engage the cable connector to secure the cable connector to the cable coupler. (P. 2, lns. 23-26). As such, the configuration of the welder cable of the present invention marked a significant design change from prior welder cable couplers.

The APA also does not disclose a gripping member on the coupling sleeve that included a plurality of nodes substantially symmetrically oriented on the coupling sleeve to form a generally

star-shaped configuration. Figure 1 of the APA disclosed two gripping rings 122 on a prior art welding coupler. The two gripping rings do not include nodes, much less symmetrically oriented nodes. The two gripping rings do not form a generally star-shaped configuration. The gripping nodes of the present invention are disclosed as facilitating in the rotation of coupling sleeve 410. (P. 11, lns. 10-11). The gripping nodes thus assist in the quick and easy connection/disengagement of cable connector 160 to/from welder cable coupler 300. (P. 13, lns. 4-9).

Ellis '386 was cited in combination with the APA to overcome the deficiencies of the APA as acknowledged by the examiner. As set forth above, it is Appellant's contention that Ellis '386 is nonanalogous art, thus cannot be used to support a rejection of any of the claims on appeal. Irrespective of this fact, the teachings of Ellis '386 in combination with the APA do not make obvious all of the limitations of claim 1.

The connection configuration of Ellis '386 is significantly different from the welder cable coupler disclosed in the APA and the present invention. As previously stated, Ellis '386 does not disclose a 1) a welder cable coupler on a welder housing or wire feeder for conveniently connecting a welder cable to a welding housing or wire feeder, 2) a welder coupler that has a coupling jacket which includes an electrical coupling cavity having a plurality of electrical connectors positioned therein, 3) a welder coupler having a plurality of electrical connectors designed to be electrically connected to corresponding electrical connectors in a cable connection sleeve, 4) a joining cavity that is designed to at least partially engage an outer threaded surface of a cable connection sleeve after a majority of the electrical coupling cavity is telescopically inserted in the cable connection sleeve, 5) a coupling sleeve that includes a gripping member, and 6) a gripping member on the coupling sleeve that includes a plurality of nodes substantially symmetrically oriented on the coupling sleeve to form a generally star-shaped configuration.

Ellis '386 is directed to an RF coupler that is used to connect a coaxial cable for transmission of an audio-visual signal. Ellis '386 does not teach that the disclosed coupler that can be successfully used in other applications. The RF coupler disclosed in Ellis '386 is also positioned on the coaxial cable, not the device being connected to the coaxial cable. This arrangement is opposite of the arrangement defined in the present invention. The welder cable coupler defined in claim 1 is located on a welder or wire feeder and is designed to be connected to a welding cable. The coupler or adaptor 8 disclosed in Ellis '386 is secure to the coaxial cable and is designed to be threaded onto a chassis mounting portion 6. Ellis '386 also does not disclose, teach or suggest a welder coupler which includes a plurality of electrical connectors positioned therein. Ellis '386 only discloses a single wire connection since a coaxial cable only has a single wire that transmits a signal. Ellis '386 further does not disclose, teach or suggest a welder coupler having a joining cavity that is designed to at least partially engage an outer threaded surface of a cable connection sleeve after a majority of the electrical coupling cavity is telescopically inserted in the cable connection sleeve. As stated above, the joining cavity of Ellis '386 is on the coaxial cable, not the chassis mounting portion 6. In addition, Ellis does not disclose, teach or suggest a joining cavity that is designed to at least partially engage an outer threaded surface of a cable connection sleeve after a majority of the electrical coupling cavity is telescopically inserted in the cable connection sleeve.

The examiner asserted in the Final Office Action that it would have been obvious to one skilled in the art to increase the distance between the front stopping flange and the rear stop. (P. 2). The examiner asserted that the suggestion or motivation for combining Ellis '386 with the APA would be to allow quicker engaging and disengaging of the mating parts. There is no indication in any of prior art of record that by increasing the distance between the front stopping flange and the rear stop flange that any type of advantage would be obtained. The incorporation of the select



feature of Ellis '386 into the coupler disclosed in the APA as suggested by the examiner would not result in quicker coupling and disconnecting. The coupling sleeve 120 would have to be both redesigned and repositioned to achieve any possible advantage. The only suggestion for such redesign and repositioning of the coupling sleeve is set forth in Appellant's own disclosure, not in the APA, Ellis '386 or combinations thereof.

Ellis '386 also does not disclose, teach or suggest a coupling sleeve that includes a gripping member having a plurality of nodes substantially symmetrically oriented on the coupling sleeve that forms a generally star-shaped configuration. The coupler or adaptor 8 is not disclosed as including any type of gripping element.

In view of the different configuration of the coupler disclosed in Ellis '386, Ellis '386 does not include most, if any, of the limitations of claim 1. As such, there are no teachings in Ellis '386 that would motivate one skilled in the art to take selected teachings from Ellis '386 relating to a different type and configured coupler and combine such selected teachings with the APA to make obvious the welder cable coupler defined in claim 1. The examiner's assertions that it would be obvious to modify Ellis '386 and to use such modification in combination with the APA to support an obviousness rejection of claim 1 is not supported by any of the references of record. Appellant submits that the examiner's reasoning appears to be based in part on hindsight reconstruction of Appellant's invention.

Haag '076, Liao '259 and Chow '034 were cited in combination with the APA and Ellis' 386 to overcome the deficiencies of the APA and Ellis '386 with respect to the gripping surfaces defined in claim 1. As set forth above, it is Appellant's contention that Liao '259 and Chow '034 are nonanalogous art, thus cannot be used to support a rejection of any of the claims on appeal. Irrespective of this fact, the teachings of Haag '076, Liao '259 and Chow '034 in combination with

the APA and Ellis '386 do not make obvious all of the limitations of claim 1.

Haag '076, Liao '259 and Chow '034 were cited by the examiner in the Final Office Action for disclosing a plurality of nodes that were allegedly in a star shape. The examiner asserted that it would have been obvious in view of Haag '076, Liao '259 and Chow '034 to modify the gripping surfaces 122 disclosed in the APA to include star shaped nodes. Appellant disagrees.

There is no disclosure from the APA or Ellis' 386 that there is a need for a star shaped grip to increase the speed at which a cable can be connected or disconnected. Indeed, Ellis '386 discloses a quick connect arrangement (See Abstract) that does not include any type of grips. The examiner has merely identified prior art that supposedly includes a star-shaped grip and then asserts that it would have been obvious to use this select feature on some undefined combination of a connector formed by the combined teachings of the APA and Ellis '386.

The mere identification of one or more elements of a claim in a particular reference does not establish a *prima facie* case of obviousness. *Rouffet*, 47 USPQ2d at 1457. There must be some motivation, suggestion or teaching of the desirability of making the specific combination. *Dance*, 48 USPQ2d at 1637. The examiner has not identified any passages in Haag '076, Liao '259 and Chow '034 that would motivate one skilled in the art to form a coupling sleeve having a plurality of nodes in a star-shaped configuration. Appellant submits there are none, thus a *prima facie* case of obviousness cannot be made against claim 1. In addition, there is no indication from the teachings of Haag '076, Liao '259 and Chow '034 that any of the grip elements are symmetrically oriented with respect to one another. Appellant submits that the examiner's reasoning appears to again be based in part on hindsight reconstruction of Appellant's invention.<sup>3</sup>

---

<sup>3</sup>The examiner stated that Appellant's assertion of hindsight reconstruction by the examiner is unfounded. (P. 6) Appellant disagrees. A reference cannot be combined with another reference unless there is some teaching or motivation to combine the references. The examiner has either

As set forth above, independent claim 1 is not obvious over the cited art of record, thus the rejection of claim 1 should be reversed.

**b. Patentably Distinct Claim 21**

Claim 21, like claim 1, defines a welder cable coupler on a welder housing or wire feeder for conveniently connecting a welder cable to the welding housing or wire feeder. The welder cable coupler includes a coupler having a coupling jacket. The coupling jacket includes an electrical coupling cavity having a plurality of electrical connectors positioned therein. A coupling sleeve is rotatably positioned at least partially about the coupling jacket. The coupling jacket is designed to be at least partially telescopically received in a cable connection sleeve of a welder cable. The electrical connectors in the coupling cavity are designed to be electrically connected to corresponding electrical connectors in the cable connection sleeve at least when the coupling jacket is partially telescopically received in the cable connection sleeve. The coupling sleeve includes a joining cavity having a connection member designed to at least partially engage an outer surface of the cable connection sleeve after the electrical coupling cavity is telescopically inserted in the cable connection sleeve and after the electrical connector in the coupling cavity is at least partially electrically connected to the corresponding electrical connector in the cable connection sleeve.

The examiner asserted in the Final Office Action that the APA disclosed all the limitations of claim 21 except that the joining cavity does not engage the outer surface of the cable connection sleeve until after the electrical coupling cavity is telescopically inserted in the cable connection sleeve. Ellis '386 was cited in combination with the APA to overcome the admitted deficiencies of

---

omitted stating a motivation or has made-up a motivation to combine the cited references. This cannot form a proper basis for rejecting one or more claims under 35 U.S.C. 103. The selection of several references which include one or more elements of a claim, and then arbitrarily combining such references to support a rejection of such claim constitutes impermissible hindsight reconstruction of the claim invention.

the APA. As set forth above, Ellis '386 is nonanalogous art, thus cannot be used to support a rejection of any of the claims on appeal. Irrespective of this fact, the teachings of Ellis '386 in combination with the APA do not make obvious all of the limitations of claim 21.

As explained above, the connection configuration of Ellis '386 is significantly different from the welder cable coupler disclosed in the APA and the present invention. Ellis '386 does not disclose 1) a welder cable coupler on a welder housing or wire feeder for conveniently connecting a welder cable to a welding housing or wire feeder, 2) a welder coupler that has a coupling jacket which includes an electrical coupling cavity having a plurality of electrical connectors positioned therein, 3) a welder coupler having a plurality of electrical connectors designed to be electrically connected to corresponding electrical connectors in a cable connection sleeve, and 4) a joining cavity that is designed to at least partially engage an outer surface of a cable connection sleeve after the electrical coupling cavity is telescopically inserted in the cable connection sleeve and after the electrical connector in the coupling cavity is at least partially electrically connected to the corresponding electrical connector in the cable connection sleeve.

The RF coupler disclosed in Ellis '386 is used to connect a coaxial cable for transmission of an audio-visual signal. The RF coupler disclosed in Ellis '386 is also positioned on the coaxial cable, not the device being connected to the coaxial cable. This arrangement is opposite of the arrangement defined in the present invention. Ellis '386 also does not disclose, teach or suggest a welder coupler which includes a plurality of electrical connectors positioned therein. Ellis '386 only discloses a single wire connection. Ellis '386 further does not disclose, teach or suggest a welder coupler having a joining cavity that is designed to at least partially engage an outer surface of a cable connection sleeve after the electrical coupling cavity is telescopically inserted in the cable connection sleeve and after the electrical connector in the coupling cavity is at least partially

electrically connected to the corresponding electrical connector in the cable connection sleeve. The examiner's assertion that it would have been obvious to one skilled in the art to increase the distance between the front stopping flange and the rear stop (P. 2) to allow quicker engaging and disengaging of the mating parts is not supported by the teachings of the two references. As set forth above, there is no indication in any of the prior art of record that by increasing the distance between the front stopping flange and the rear stop flange that any type of advantage would be obtained. Coupling sleeve 120 would have to be both redesigned and repositioned to achieve any possible advantage. The only suggestion for such redesign and repositioning of the coupling sleeve is set forth in Appellant's own disclosure, not in the APA, Ellis '386 or combinations thereof.

In view of the different configuration of the coupler disclosed in Ellis '386, Ellis '386 does not include most, if not all, of the limitations of claim 21. As such, there are no teachings in Ellis '386 that would motivate one skilled in the art to take selected teachings from Ellis '386 relating to a different type and configured coupler and combine such selected teachings with the APA to make obvious the welder coupler defined in claim 21. The examiner's assertions that it would be obvious to modify Ellis '386 and to use such modification in combination with the APA to support an obviousness rejection of claim 21 is not supported by any of the references of record. Appellant submits that the examiner's reasoning again appears to be based in part on hindsight to reconstruction of Appellant's invention.

Haag '076, Liao '259 and Chow '034 were cited in combination with the APA and Ellis '386 to support an obviousness rejection of claim 21. It is not clear to Appellant the reasoning Haag '076, Liao '259 and Chow '034 were cited against claim 21. Claim 21 does not include any limitation with respect to gripping elements. Haag '076, Liao '259 and Chow '034 were cited by the examiner

solely for the teachings of gripping elements.<sup>4</sup> Appellant submits that Haag '076, Liao '259 and Chow '034 do not include any teachings that pertain to any limitation in claim 21.

As set forth above, independent claim 21 is not obvious over the cited art of record, thus the rejection of claim 21 should be reversed.

**b. Patentably Distinct Claims 7, 18 and 19**

Appellant submits that dependent claims 7, 18 and 19, which ultimately depend from claim 1, included limitations that are not disclosed, taught or suggested by the combination of the APA, Ellis '386, Haag '076, Liao '259 and Chow '034.

Claim 7 includes the limitation that at least one thread in the joining cavity of the coupling sleeve is spaced from a receiving end of the joining cavity. The APA, as represented in Figures 1-3, illustrates that the thread 126 starts immediately at the end of the joining cavity 124. As shown in Figure 5 of Appellant's application, the front end of joining cavity 414 includes a beveled surface 416 and a threaded surface rearwardly positioned of beveled surface 416. The APA is absent such a disclosure or teaching. Ellis '386 does not disclose a connection cavity arrangement for receiving a cable as explained in detail above. Haag '076, Liao '259 and Chow '034 are also absent any teaching concerning this limitation. As such, the combination of the APA, Ellis '386, Haag '076, Liao '259 and Chow '034 does not make obvious the limitation of claim 7.

Claims 18 and 19 include the limitation that the mounting plate includes an anti-rotation member that engages the coupling jacket when the coupling jacket is at least partially positioned in the plate cavity. The anti-rotation member inhibits movement of the coupling jacket in the plate

---

<sup>4</sup>It appears that this rejection is a carryover argument from the May 21, 2004 Final Office Action. In the Appeal Brief filed in response to the May 21, 2004 Final Office Action, Appellant raised the same question and objection. Apparently, the examiner again overlooked this error or ignored Appellant's arguments in the prior Appeal Brief.

cavity. The APA, as shown in Figures 1-3, does not disclose any type of anti-rotation member that inhibits movement of the coupling jacket in the plate cavity. The APA does disclose a retention ring 80 positioned in a ring groove 68 of the coupling as shown in Figure 2. The retention ring 80 prevents the electrical plug from moving rearwardly out of connector cavity 64. The retention ring does not inhibit movement of the coupling jacket in the plate cavity. Ellis '386, Haag '076, Liao '259 and Chow '034 do not disclose any type of mounting plate or any type of retention ring. As such, the combination of the APA, Ellis '386, Haag '076, Liao '259 and Chow '034 does not make obvious the limitation of claims 18 and 19.

## **2. Summary of the Sixth Issue**

Independent claims 1 and 21 are not obvious in view of the APA, Ellis '386, Haag '076, Liao '259 and Chow '034. Appellant requests the reversal of the rejection of these independent claims and all the claims dependent therefrom. Dependent claims 7, 18 and 19 also include separately patentable limitations that are not obvious in view of the APA, Ellis '386, Haag '076, Liao '259 and Chow '034. Appellant requests the reversal of the rejection of these dependent claims on this additional basis.

## **F. THE SEVENTH ISSUE**

The examiner's final rejection of claims 8-10 under 35 U.S.C. 103(a) as being unpatentable over the APA in view of Ellis '386, Haag '076, Liao '259, Chow '034 and Herrmann '759 is in error. The APA in view of Ellis '386, Haag '076, Liao '259, Chow '034 and Herrmann '759 do not disclose, teach or suggest the welder cable coupler defined in claims 8-10.

### **1. Reference Combination Does Not Disclose, Teach or Suggest the Claimed Invention**

Appellant submit that the APA in view of Ellis '386, Haag '076, Liao '259, Chow '034 and Herrmann '759 do not disclose, teach, or suggest a welder cable coupler that satisfies all the

limitations of dependent claims 8-10.

To reject claims in an application under 35 U.S.C. 103, there must be a showing of an un rebutted *prima facie* case of obviousness. *Deuel*, 34 USPQ2d at 1214. Section 103 specifically requires consideration of the claimed invention "as a whole." *Ruiz v. A.B. Chance Co.*, 69 USPQ2d at 1690. The identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. *Rouffet*, 47 USPQ2d at 1457. Some suggestion, teaching or motivation to combine the teachings of two or more references must be shown to support an obviousness rejection. *Dance*, 48 USPQ2d at 1637. Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability--the essence of hindsight. *Interconnect Planning Corp. v. Feil*, 227 USPQ at 547.

Claim 8, as in claim 7, includes the limitation that at least one thread in the joining cavity of the coupling sleeve is spaced from a receiving end of the joining cavity. The examiner did not specifically state which reference disclosed the limitation of claim 8 when rejecting such claim in the Final Office Action. Appellant can only assume, but is not certain, that Herrmann '759 is being relied upon by the examiner to support the rejection of claim 8.

As set forth above, it is Appellant's contention that Herrmann '759 is nonanalogous art, thus cannot be used to support a rejection of any claim on appeal. Irrespective of this fact, the teachings of Herrmann '756 in combination with the APA, Ellis '386, Haag '076, Liao '259 and Chow '034 do not make obvious the limitation of claim 8.

Appellant submits that Herrmann '759 was selected by the examiner to illustrate that the spacing of a thread from the end of a cavity is not new. However, the examiner did not identify any passage in Herrmann '759 that would motivate one skilled in the art of welding to take selected



teachings from Herrmann '759 with respect to thread placement and combine such teachings with the APA, Ellis '386, Haag '076, Liao '259 and/or Chow '034. As such, the combination of the APA, Ellis '386, Haag '076, Liao '259, Chow '034 and Herrmann '759 does not make obvious the limitation of claim 8.

Claims 9 and 10 include the limitation that the receiving end of the joining cavity has a beveled surface designed to receive a front end of the cable connection sleeve. Appellant again can only assume, but is not certain, that Herrmann '759 was selected by the examiner to illustrate that a beveled surface is not new. However, the examiner again did not identify any passage in Herrmann '759 that would motivate one skilled in the art of welding to take selected teachings from Herrmann '759 with respect to a beveled surface and combine such teachings with the APA, Ellis '386, Haag '076, Liao '259 and/or Chow '034. As such, the combination of the APA, Ellis '386, Haag '076, Liao '259, Chow '034 and Herrmann '759 does not make obvious the limitation of claim 9 and 10.

## **2. Summary of the Seventh Issue**

Dependent claims 8-10 are not obvious in view of the APA, Ellis '386, Haag '076, Liao '259, Chow '034 and Herrmann '759. Appellant requests the reversal of the rejection of these dependent claims.

## **G. THE EIGHTH ISSUE**

The examiner's final rejection of claim 11 under 35 U.S.C. 103(a) as being unpatentable over the APA in view of Ellis '386, Haag '076, Liao '259, Chow '034 and Glover '526 is in error. The APA in view of Ellis '386, Haag '076, Liao '259, Chow '034 and Glover '526 do not disclose, teach or suggest the welder cable coupler defined in claim 11.

### **1. Reference Combination Does Not Disclose, Teach or Suggest the Claimed Invention**

Appellant submits that the APA in view of Ellis '386, Haag '076, Liao '259, Chow '034 and Glover '26 do not disclose, teach, or suggest a welder cable couple that satisfies all the limitations of dependent claim 11.

To reject claims in an application under 35 U.S.C. 103, there must be a showing of an un rebutted *prima facie* case of obviousness. *Deuel*, 34 USPQ2d at 1214. Section 103 specifically requires consideration of the claimed invention "as a whole." *Ruiz v. A.B. Chance Co.*, 69 USPQ2d at 1690. The identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. *Rouffet*, 47 USPQ2d at 1457. Some suggestion, teaching or motivation to combine the teachings of two or more references must be shown to support an obviousness rejection. *Dance*, 48 USPQ2d at 1637. Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability--the essence of hindsight. *Interconnect Planning Corp. v. Feil*, 227 USPQ at 547.

Claim 11 includes the limitation that at least a majority of the electrical coupling cavity extends outwardly from the receiving end of the joining cavity. The coupler configuration defined in claim 11 is a marked departure from prior welder cable coupler configurations as illustrated in Figures 1-3 of the APA. The examiner cited Glover '526 to support the rejection of claim 11.

As set forth above, it is Appellant's contention that Glover '526 is nonanalogous art, thus cannot be used to support a rejection of any claim on appeal. Irrespective of this fact, the teachings of Glover '526 in combination with the APA, Ellis '386, Haag '076, Liao '259 and Chow '034 do not make obvious the limitation of claim 11.

Appellant submits that Glover '526 was selected by the examiner to attempt to illustrate that at least a majority of a connection cavity can extend outwardly from the receiving end of the joining

cavity. Appellant submits that Glover '526 does not disclose the length of the connection cavity, thus it is not clear from Glover '526 whether at least a majority of a connection cavity extends outwardly from the receiving end of the joining cavity. This concept is not described in Glover '526, thus no details concerning the length of the connection cavity and the position of the joining cavity can be gleaned from the disclosure of Glover '526. The examiner also did not identify any passage in Glover '526 that would motivate one skilled in the art of welding to take selected teachings from Glover '526 with respect to the position of the joining cavity with respect to the connection cavity and combine such teachings with the APA, Ellis '386, Haag '076, Liao '259 and/or Chow '034. As such, the combination of the APA, Ellis '386, Haag '076, Liao '259, Chow '034 and Glover '526 does not make obvious the limitation of claim 11.

**2. Summary of the Eighth Issue**

Dependent claim 11 is not obvious in view of the APA, Ellis '386, Haag '076, Liao '259, Chow '034 and Glover '526. Appellant requests the reversal of the rejection of dependent claim 11.

**H. THE NINTH ISSUE**

The examiner's final rejection of claims 12, 13, 15, 17, 20 and 23-44 and 46-64 under 35 U.S.C. 103(a) as being unpatentable over the APA in view of Ellis '386, Haag '076, Liao '259, Chow '034, Herrmann '759 and Glover '526 is in error. The APA in view of Ellis '386, Haag '076, Liao '259, Chow '034, Herrmann '759 and Glover '526 do not disclose, teach or suggest the welder cable defined in claim 12, 13, 15, 17, 20 and 23-44 and 46-64.

**1. Reference Combination Does Not Disclose, Teach or Suggest the Claimed Invention**

Appellant submits that the APA in view of Ellis '386, Haag '076, Liao '259, Chow '034, Herrmann '759 and Glover '526 do not disclose, teach, or suggest a welder cable coupler that satisfies all the limitations of claims 12, 13, 15, 17, 20 and 23-44 and 46-64.

To reject claims in an application under 35 U.S.C. 103, there must be a showing of an un rebutted *prima facie* case of obviousness. *Deuel*, 34 USPQ2d at 1214. Section 103 specifically requires consideration of the claimed invention "as a whole." *Ruiz v. A.B. Chance Co.*, 69 USPQ2d at 1690. The identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. *Rouffet*, 47 USPQ2d at 1457. Some suggestion, teaching or motivation to combine the teaching of two or more references must be shown to support an obviousness rejection. *Dance*, 48 USPQ2d at 1637. Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability--the essence of hindsight. *Interconnect Planning Corp. v. Feil*, 227 USPQ at 547.

a. **Patentably Distinct Claim 44**

Independent claim 44 defines a method of conveniently connecting a welder cable to a welding housing or wire feeder. The method includes providing a welder cable having a cable connection sleeve and a plurality of connectors at least partially positioned therein. The cable connection sleeve includes a connection member. The method also includes providing a welder or wire feeder that has a mounting plate secured thereto. The method further includes providing a welder cable coupler that is secured in a plate cavity of the mounting plate. The coupler has a coupling jacket that includes a plurality of connectors at least partially positioned therein and a coupling sleeve rotatably positioned at least partially about the coupling jacket. The coupling sleeve includes a joining cavity having a connection member. At least one connector of the cable connection sleeve and at least one connector of the coupling jacket are electrical connectors. The method also includes inserting the cable connection sleeve about the coupling jacket until a plurality of the connectors of the cable connection sleeve are at least partially connected to a plurality of the

connectors of the coupling jacket. The method also includes moving the coupling sleeve axially along a longitudinal axis of the coupling jacket until the joining cavity in the coupling sleeve telescopically receives the cable connection sleeve and the connection member of the cable connection sleeve and the joining cavity are at least partially engaged. The method further includes rotating the coupling sleeve until the connection member of the cable connection sleeve and the joining cavity are at least partially secured together.

The examiner briefly asserted in the Final Office Action that all the limitations of claim 44 would have been obvious at the time of the invention. No further analysis of claim 44 was provided by the examiner. Appellant disagrees with the examiner's summary conclusion that claim 44 is obvious in view of Ellis '386, Haag '076, Liao '259, Chow '034, Herrmann '759 and Glover '526.

As admitted by the examiner, the APA does not disclose a joining cavity designed to at least partially engage the outer surface of the cable connection sleeve after the electrical coupling cavity is telescopically inserted in the cable connection sleeve and after the electrical connector in the coupling cavity is at least partially electrically connected to the corresponding electrical connector in the cable connection sleeve. As such, steps d and e of the method of claim 44 are not taught by the APA.

As stated above, Ellis '386 is nonanalogous art, thus cannot be used to support a rejection of claim 44. Irrespective of this fact, the teachings of Ellis '386 in combination with the APA do not make obvious all of the limitations of claim 44. As previously set forth, the connection configuration of Ellis '386 is significantly different from the welder cable coupler disclosed in the APA and the present invention. Ellis '386 does not disclose 1) a welder cable coupler on a welder housing or wire feeder for conveniently connecting a welder cable to a welding housing or wire feeder, 2) a welder coupler that has a coupling jacket which includes a plurality of connectors

positioned therein, 3) a welder coupler having an electrical connector designed to be electrically connected to a corresponding connector in a cable connection sleeve, and 4) a joining cavity that is designed to at least partially engage the cable connection sleeve after the coupling cavity is telescopically inserted in the cable connection sleeve and after a plurality of connectors in the coupling cavity is at least partially connected to the corresponding connectors in the cable connection sleeve.

Ellis '386 does not disclose, teach or suggest a welder coupler. The RF coupler disclosed in Ellis '386 is used to connect a coaxial cable for transmission of an audio-visual signal. The coupler disclosed in Ellis '386 is also positioned on the coaxial cable, not the device being connected to the coaxial cable. This arrangement is opposite of the arrangement defined in the present invention. Ellis '386 also does not disclose, teach or suggest a welder coupler which includes a plurality of connectors positioned therein. Ellis '386 only discloses a single wire connection. Ellis '386 further does not disclose, teach or suggest a welder coupler having a joining cavity that is designed to at least partially engage the cable connection sleeve after the coupling cavity is telescopically inserted in the cable connection sleeve and after a plurality of connectors in the coupling cavity are at least partially connected to the corresponding connectors in the cable connection sleeve.

In view of the different configuration of the coupler disclosed in Ellis '386, Ellis '386 does not disclose most, if not all, of the limitations of claim 44. As such, there are no teachings in Ellis '386 that would motivate one skilled in the art to take selected teachings from Ellis '386 relating to a different type and configured coupler and combine such selected teachings with the APA to make obvious the method of connecting a welder cable to a welding housing or wire feeder as defined in claim 44.

Haag '076, Liao '259 and Chow '034 were cited in combination with the APA and Ellis' 386 to also support a rejection of claim 44. It is not clear to Appellant the reason Haag '076, Liao '259 and Chow '034 were cited against claim 44. Claim 44 does not include any limitation with respect to gripping elements. Haag '076, Liao '259 and Chow '034 were previously cited by the examiner solely for the teachings concerning the gripping members. Appellant submits that Haag '076, Liao '259 and Chow '034 do not include any teachings that pertain to any limitation in claim 44.

The examiner cited Glover '526 in combination with the APA, Ellis '386, Haag '076, Liao '259 and Chow '034 to support the rejection of claim 44. As set forth above, it is Appellant's contention that Glover '526 is nonanalogous art, thus cannot be used to support a rejection of any claim on appeal. Irrespective of this fact, the teachings of Glover '526 in combination with the APA, Ellis '386, Haag '076, Liao '259 and Chow '034 do not make obvious the limitations of claim 44.

Glover '526 was previously cited by the examiner to attempt to illustrate that at least a majority of a connection cavity can extend outwardly from the receiving end of the joining cavity. However, since the examiner did not provide any analysis as to the basis of the rejection of claim 44, Appellant can only assume the reason Glover '526 is being used to support a rejection of claim 44.

As previously discussed, Glover '526 does not disclose the length of the connection cavity, thus it is not clear from Glover '526 whether at least a majority of a connection cavity extends outwardly from the receiving end of the joining cavity. Furthermore, this limitation is not even included in claim 44. Glover '526 also does not disclose 1) a welder cable coupler on a welder housing or wire feeder for conveniently connecting a welder cable to a welding housing or wire feeder, 2) a welder coupler that has a coupling jacket which includes a plurality of connectors

positioned therein, 3) a welder coupler having an electrical connector designed to be electrically connected to a corresponding connector in a cable connection sleeve, and 4) a joining cavity that is designed to at least partially engage the cable connection sleeve after the coupling cavity is telescopically inserted in the cable connection sleeve and after a plurality of connectors in the coupling cavity is at least partially connected to the corresponding connectors in the cable connection sleeve.

The examiner further cited Herrmann '759 in combination with the APA, Ellis '386, Haag '076, Liao '259, Chow '034 and Glover '526 to support the rejection of claim 44. As set forth above, it is Appellant's contention that Herrmann '759 is nonanalogous art, thus cannot be used to support a rejection of any claim on appeal. Irrespective of this fact, the teachings of Herrmann '756 in combination with the APA, Ellis '386, Haag '076, Liao '259, Chow '034 and Glover '526 do not make obvious all the limitations of claim 44.

As stated above, it is assumed that Herrmann '759 was selected by the examiner to illustrate that the spacing of a thread from the end of a cavity is not new. However, since the examiner did not provide any analysis as to the basis of the rejection of claim 44, Appellant can only assume the reason Herrmann '759 is being used to support a rejection of claim 44. Furthermore, it is unclear to Appellant the reason Herrmann '759 is being cited against claim 44. Claim 44 does not include any limitation concerning the spacing of a thread from the end of a cavity. In addition, Herrmann '759 also does not disclose 1) a welder cable coupler on a welder housing or wire feeder for conveniently connecting a welder cable to a welding housing or wire feeder, 2) a welder coupler that has a coupling jacket which includes a plurality of connectors positioned therein, 3) a welder coupler having an electrical connector designed to be electrically connected to corresponding connector in a cable connection sleeve, and 4) a joining cavity that is designed to at least partially engage the



cable connection sleeve after the coupling cavity is telescopically inserted in the cable connection sleeve and after a plurality of connectors in the coupling cavity is at least partially connected to the corresponding connectors in the cable connection sleeve.

The combined teachings of the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Glover '526 and Herrmann '759 do not make obvious all the limitations of claim 44. Appellant submits that not only do the cited references fail to disclose, teach or suggest all the limitations of claim 44, the examiner also has not established that one skilled in the art, upon reading these diverse references, would be motivated to combine selected teachings from these references in a manner set forth by the examiner in the Final Office Action. Appellant submits that independent claim 44 and all the claims dependent therefrom are not obvious in view of APA, Ellis '386, Haag '076, Liao '259, Chow '034, Glover '526 and Herrmann '759, thus the rejection of claim 44 and all the dependant claims should be reversed.

**b. Patentably Distinct Claims 12, 13, 20, 25, 26, 31-37, 42, 43, 47-50, 57 and 62-64**

Appellant submits that dependent claims 12, 13 and 20, which ultimately depend from claim 1, included limitations that are not disclosed, taught or suggested in the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Glover '526 and Herrmann '759. Appellant also submits that dependent claims 25, 26, 31-37, 42 and 43, which ultimately depend from claim 21, included limitations that are not disclosed, taught or suggested in the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Glover '526 and Herrmann '759. Appellant further submits that dependent claims 47-50, 57 and 62-64, which ultimately depend from claim 44, included limitations that are not disclosed, taught or suggested in the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Glover '526 and Herrmann '759.

As a general matter, the examiner did not provide any specific basis for rejecting any of these

claims. As such, Appellant can only assume, but is not certain, the basis for the rejection for each of these claims. Consequently, the arguments submitted below regarding the patentability of the claims are based on Appellant's best guess for the reason the examiner rejected such claims.

Claims 12 and 13 include the limitation that at least a majority of the electrical coupling cavity extends outwardly from the receiving end of the joining cavity. Appellant submits that the limitation of claims 12 and 13 is not obvious in view of the cited references for at least the reasons set forth in the arguments supporting the non-obviousness of claim 11 as set forth above. The arguments relating to claim 11 addressed the patentability of such claim in view of the APA, Ellis '386, Haag '076, Liao '259, Chow '034 and Glover '526. Herrmann '759 was also cited by the examiner in support of the rejection of claims 12 and 13. As set forth above, Herrmann '759 is nonanalogous art, thus cannot be used to support a rejection of claims 12 and 13. In addition, the figures of Herrmann '759 teach the opposite of the limitation set forth in claims 12 and 13. As such, Appellant submits that the limitation of claims 12 and 13 is not disclosed, taught or suggested in the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Glover '526 and Herrmann '759.

Claim 20 includes the limitation that the mounting plate includes an anti-rotation member that engages the coupling jacket when the coupling jacket is at least partially positioned in the plate cavity, and the anti-rotation member inhibits movement of the coupling jacket in the plate cavity. Appellant submits that the limitation of claim 20 is not obvious in view of the cited references for at least the reasons set forth in the arguments supporting the non-obviousness of claims 18 and 19 as set forth above. The arguments relating to claims 18 and 19 addressed the patentability of such claims in view of the APA, Ellis '386, Haag '076, Liao '259 and Chow '034. Glover '526 and Herrmann '759 were also cited by the examiner in support of the rejection of claim 20. As set forth above, Glover '526 and Herrmann '759 are nonanalogous art, thus cannot be used to support a

rejection of claim 20. Glover '526 and Herrmann '759 are also absent any disclosure or teaching with respect to an anti-rotation member as defined in claim 20. As such, Appellant submits that the limitation of claim 20 is not disclosed, taught or suggested in the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Glover '526 and Herrmann '759.

Claims 25 and 26 include the limitation that the coupling sleeve is oriented on the coupling jacket to enable at least a majority of the electrical coupling cavity to be telescopically inserted in the cable connection sleeve prior to the connection member at least partially engaging the outer surface of the cable connection sleeve. Appellant submits that the limitation of claims 25 and 26 is not obvious in view of the cited references for at least the reasons set forth in the arguments supporting the non-obviousness of claims 1 and 21 as set forth above. The arguments relating to claims 1 and 21 addressed the patentability of such claims in view of the APA, Ellis '386, Haag '076, Liao '259, Chow '034. Glover '526 and Herrmann '759 were also cited by the examiner in support of the rejection of claims 25 and 26. As set forth above, Glover '526 and Herrmann '759 are nonanalogous art, thus cannot be used to support a rejection of claims 25 and 26. Glover '526 and Herrmann '759 are also absent any disclosure or teaching with respect to the limitation of claims 25 and 26. Based on the Figures of Glover '526 and Herrmann '759, it would be mere speculation as to whether the couplers in these two references satisfy the limitation set forth in claims 25 and 26. As such, Appellant submits that the limitation of claims 25 and 26 is not disclosed, taught or suggested in the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Glover '526 and Herrmann '759.

Claim 31 includes the limitation that the gripping member on the coupling sleeve includes a plurality of nodes substantially symmetrically oriented on the coupling sleeve to form a generally star-shaped configuration. Appellant submits that the limitation of claim 31 is not obvious in view

of the cited references for at least the reasons set forth in the arguments supporting the non-obviousness of claim 1 as set forth above. The arguments relating to claim 1 addressed the patentability of such claim in view of the APA, Ellis '386, Haag '076, Liao '259 and Chow '034. Glover '526 and Herrmann '759 were also cited by the examiner in support of the rejection of claim 31. As set forth above, Glover '526 and Herrmann '759 are nonanalogous art, thus cannot be used to support a rejection of claim 31. Glover '526 and Herrmann '759 are also absent any disclosure or teaching with respect to the limitation of claim 31. There is no disclosure or teaching in Glover '526 or Herrmann '759 concerning nodes on a gripping member. As such, Appellant submits that the limitation of claim 31 is not disclosed, taught or suggested in the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Glover '526 and Herrmann '759.

Claims 32 and 33 include the limitation that the connection member is spaced from a receiving end of the joining cavity. Appellant submits that the limitation of claims 32 and 33 is not obvious in view of the cited references for at least the reasons set forth in the arguments supporting the non-obviousness of claims 7 and 8 as set forth above. The arguments relating to claim 7 addressed the patentability of such claim in view of the APA, Ellis '386, Haag '076, Liao '259 and Chow '034. The arguments relating to claim 8 addressed the patentability of such claim in view of the APA, Ellis '386, Haag '076, Liao '259, Chow '034 and Herrmann '759. Glover '526 was also cited by the examiner in support of the rejection of claims 32 and 33. As set forth above, Glover '526 is nonanalogous art, thus cannot be used to support a rejection of claims 32 and 33. Glover '526 is also absent any disclosure or teaching with respect to the limitation of claims 32 and 33. There is no disclosure or teaching in Glover '526 concerning the spacing of the connection member from the end of a joining cavity. Indeed, Glover '526 discloses in Figures 1-3 that there is no spacing of the thread from the end of the joining cavity. As such, Appellant submits that the

limitation of claims 32 and 33 is not disclosed, taught or suggested in the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Glover '526 and Herrmann '759.

Claims 34 and 35 include the limitation that the receiving end of the joining cavity has a beveled surface designed to receive a front end of the cable connection sleeve. Appellant submits that the limitation of claims 34 and 35 is not obvious in view of the cited references for at least the reasons set forth in the arguments supporting the non-obviousness of claims 9 and 10 as set forth above. The arguments relating to claims 9 and 10 addressed the patentability of such claims in view of the APA, Ellis '386, Haag '076, Liao '259, Chow '034 and Herrmann '759. Glover '526 was also cited by the examiner in support of the rejection of claims 34 and 35. As set forth above, Glover '526 is nonanalogous art, thus cannot be used to support a rejection of claims 34 and 35. Glover '526 is also absent any disclosure or teaching with respect to the limitation of claims 34 and 35. There is no disclosure or teaching in Glover '526 concerning a beveled edge. As such, Appellant submits that the limitation of claims 34 and 35 is not disclosed, taught or suggested in the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Glover '526 and Herrmann '759.

Claims 36 and 37 include the limitation that at least a majority of the coupling cavity extends outwardly from the receiving end of the joining cavity. Appellant submits that the limitation of claims 36 and 37 is not obvious in view of the cited references for at least the reasons set forth in the arguments supporting the non-obviousness of claims 11-13 as set forth above. The arguments relating to claim 11 addressed the patentability of such claim in view of the APA, Ellis '386, Haag '076, Liao '259, Chow '034 and Glover '526. The arguments relating to claims 12 and 13 addressed the patentability of such claims in view of the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Herrmann '759 and Glover '526. Appellant submits that the limitation of claims 36 and 37 is not disclosed, taught or suggested in the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Glover

'526 and Herrmann '759.

Claims 42 and 43 include the limitation that the mounting plate includes an anti-rotation member that engages the coupling jacket when the coupling jacket is at least partially positioned in the plate cavity, and the anti-rotation member inhibits movement of the coupling jacket in the plate cavity. Appellant submits that the limitation of claims 42 and 43 is not obvious in view of the cited references for at least the reasons set forth in the arguments supporting the non-obviousness of claims 18-20 as set forth above. The arguments relating to claims 18 and 19 addressed the patentability of such claims in view of the APA, Ellis '386, Haag '076, Liao '259 and Chow '034. The arguments relating to claim 20 addressed the patentability of such claim in view of the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Herrmann '759 and Glover '526. Appellant submits that the limitation of claims 42 and 43 is not disclosed, taught or suggested in the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Glover '526 and Herrmann '759.

Claims 47 and 48 include the limitation that at least a majority of the cable connection sleeve is inserted about the coupling jacket prior to the moving of the coupling sleeve to cause the joining cavity to at least partially telescopically receive the cable connection sleeve. Appellant submits that the limitation of claims 47 and 48 is not obvious in view of the cited references for at least the reasons set forth in the arguments supporting the non-obviousness of claims 1, 25 and 26 as set forth above. The arguments relating to claim 1 addressed the patentability of such a claim in view of the APA, Ellis '386, Haag '076, Liao '259 and Chow '034. The arguments relating to claims 25 and 26 addressed the patentability of such claims in view of the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Herrmann '759 and Glover '526. Appellant submits that the limitation of claims 47 and 48 is not disclosed, taught or suggested in the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Glover '526 and Herrmann '759.

Claims 49 and 50 include the limitation that the receiving end of the joining cavity has a beveled surface designed to receive a front end of the cable connection sleeve, and that the connection member of the joining cavity is positioned rearwardly of the beveled surface. Appellant submits that the limitation of claims 49 and 50 is not obvious in view of the cited references for at least the reasons set forth in the arguments supporting the non-obviousness of claims 7-10 and 32-35 as set forth above. The arguments relating to claim 7 addressed the patentability of such claims in view of the APA, Ellis '386, Haag '076, Liao '259 and Chow '034. The arguments relating to claims 8-10 addressed the patentability of such claims in view of the APA, Ellis '386, Haag '076, Liao '259, Chow '034 and Herrmann '759. The arguments relating to claims 32-35 addressed the patentability of such claims in view of the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Herrmann '759 and Glover '526. Appellant submits that the limitation of claims 49 and 50 is not disclosed, taught or suggested in the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Glover '526 and Herrmann '759.

Claims 57 and 64 include the limitation that the gripping member on the coupling sleeve includes a plurality of nodes substantially symmetrically oriented on the coupling sleeve to form a generally star-shaped configuration. Appellant submits that the limitation of claims 57 and 64 is not obvious in view of the cited references for at least the reasons set forth in the arguments supporting the non-obviousness of claims 1 and 31 as set forth above. The arguments relating to claim 1 addressed the patentability of such claims in view of the APA, Ellis '386, Haag '076, Liao '259, Chow '034. The arguments relating to claim 31 addressed the patentability of such claims in view of the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Herrmann '759 and Glover '526. Appellant submits that the limitation of claims 57 and 64 is not disclosed, taught or suggested in the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Glover '526 and Herrmann '759.

Claims 62 and 63 include the limitation that the mounting plate includes an anti-rotation member that engages the coupling jacket to inhibit movement of the coupling jacket relative to the mounting plate. Appellant submits that the limitation of claims 62 and 63 is not obvious in view of the cited references for at least the reasons set forth in the arguments supporting the non-obviousness of claims 18-20, 42 and 43 as set forth above. The arguments relating to claims 18 and 19 addressed the patentability of such claims in view of the APA, Ellis '386, Haag '076, Liao '259 and Chow '034. The arguments relating to claim 20 addressed the patentability of such claims in view of the APA, Ellis '386, Haag '076, Liao '259, Chow '034 and Glover '526. The arguments relating to claims 42 and 43 addressed the patentability of such claims in view of the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Herrmann '759 and Glover '526. Appellant submits that the limitation of claims 62 and 63 is not disclosed, taught or suggested in the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Glover '526 and Herrmann '759.

## **2. Summary of the Ninth Issue**

Claim 44 is not obvious in view of the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Glover '526 and Herrmann '759. Appellant requests the reversal of the rejection of independent claim 44 and all the claims dependent therefrom. Dependent claims 12, 13, 20, 25, 26, 31-37, 42, 43, 47-50, 57 and 62-64 include separately patentable limitations that are not obvious in view of the APA, Ellis '386, Haag '076, Liao '259, Chow '034, Glover '526 and Herrmann '759. Appellant requests the reversal of the rejection of these dependent claims on this additional basis.

## **X. SUMMARY AND CONCLUSION**

The claims on appeal pertain to a novel welder cable coupler for a welder or wire feeder and method for using a novel welder cable coupler for a welder or wire feeder. The cited prior art references do not disclose, teach or suggest the claimed welder cable coupler and method for using



the welder cable coupler. Appellant respectfully requests that the rejections to the claims on appeal be withdrawn and that such claims be indicated as allowable.

Respectfully submitted,  
FAY, SHARPE, FAGAN, MINNICH & McKEE

By: 

ROBERT V. VICKERS

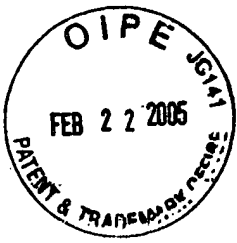
Reg. No. 19,504

1100 Superior Avenue, 7<sup>th</sup> Floor

Cleveland, Ohio 44114-2579

Telephone: (216) 861-5582

Facsimile: (216) 241-1666



## APPENDIX OF CLAIMS

### Claims on Appeal

1. A welder cable coupler on a welder housing or wire feeder for conveniently connecting a welder cable to said welding housing or wire feeder, said welder coupler having a coupling jacket which includes an electrical coupling cavity having a plurality of electrical connectors positioned therein and a coupling sleeve rotatably positioned at least partially about said coupling jacket, said coupling jacket sized and shaped to be at least partially telescopically received in a cable connection sleeve of said welder cable, said plurality of electrical connectors in said coupling cavity designed to be electrically connected to corresponding electrical connectors in said cable connection sleeve at least when said coupling jacket is partially telescopically received in said cable connection sleeve, said coupling sleeve including a gripping member and a joining cavity having at least one thread, said joining cavity designed to at least partially engage an outer threaded surface of said cable connection sleeve after a majority of said electrical coupling cavity is telescopically inserted in said cable connection sleeve, said gripping member designed to facilitate in the rotation of said coupling sleeve on said coupling jacket, said gripping member including a plurality of nodes substantially symmetrically oriented on said coupling sleeve to form a generally star-shape configuration.

2. The welder cable coupler as defined in claim 1, wherein said coupling jacket includes an orientation guide designed to at least partially guide said coupling jacket in a certain orientation into said cable coupling sleeve.

Claims 3-6 (Canceled).

7. The welder cable coupler as defined in claim 1, wherein said at least one thread in said joining cavity of said coupling sleeve is spaced from a receiving end of said joining cavity.

8. The welder cable coupler as defined in claim 2, wherein said at least one thread in said joining cavity of said coupling sleeve is spaced from a receiving end of said joining cavity.

9. The welder cable coupler as defined in claim 7, wherein said receiving end of said joining cavity has a beveled surface designed to receive a front end of said cable connection sleeve.

10. The welder cable coupler as defined in claim 8, wherein said receiving end of said joining cavity has a beveled surface designed to receive a front end of said cable connection sleeve.

11. The welder cable coupler as defined in claim 7, wherein at least a majority of said electrical coupling cavity extends outwardly from said receiving end of said joining cavity.

12. The welder cable coupler as defined in claim 9, wherein at least a majority of said electrical coupling cavity extends outwardly from said receiving end of said joining cavity.

13. The welder cable coupler as defined in claim 10, wherein at least a majority of said electrical coupling cavity extends outwardly from said receiving end of said joining cavity.

14. The welder cable coupler as defined in claim 1, wherein said coupling jacket is substantially rigidly secured to a mounting plate that is designed to be secured to said welder housing

or wire feeder, said mounting plate including a plate cavity designed to at least partially telescopically receive a rear portion of said coupling jacket.

15. The welder cable coupler as defined in claim 13, wherein said coupling jacket is substantially rigidly secured to a mounting plate that is designed to be secured to said welder housing or wire feeder, said mounting plate including a plate cavity designed to at least partially telescopically receive a rear portion of said coupling jacket.

16. The welder cable coupler as defined in claim 14, wherein said coupling sleeve is movable along a longitudinal axis of said coupling jacket a length of at least a thread width of said joining cavity, said coupling jacket including a retention member to limit movement of said coupling sleeve along a longitudinal axis of said coupling jacket.

17. The welder cable coupler as defined in claim 15, wherein said coupling sleeve is movable along a longitudinal axis of said coupling jacket a length of at least a thread width of said joining cavity, said coupling jacket including a retention member to limit movement of said coupling sleeve along a longitudinal axis of said coupling jacket.

18. The welder cable coupler as defined in claim 14, wherein said mounting plate includes an anti-rotation member that engages said coupling jacket when said coupling jacket is at least partially positioned in said plate cavity, said anti-rotation member inhibiting movement of said coupling jacket in said plate cavity.

19. The welder cable coupler as defined in claim 16, wherein said mounting plate includes an anti-rotation member that engages said coupling jacket when said coupling jacket is at least partially positioned in said plate cavity, said anti-rotation member inhibiting movement of said coupling jacket in said plate cavity.

20. The welder cable coupler as defined in claim 17, wherein said mounting plate includes an anti-rotation member that engages said coupling jacket when said coupling jacket is at least partially positioned in said plate cavity, said anti-rotation member inhibiting movement of said coupling jacket in said plate cavity.

21. A welder cable coupler on a welder housing or wire feeder for conveniently connecting a welder cable to said welding housing or wire feeder comprising a coupler having a coupling jacket which includes an electrical coupling cavity having a plurality of electrical connectors positioned therein and a coupling sleeve rotatably positioned at least partially about said coupling jacket, said coupling jacket designed to be at least partially telescopically received in a cable connection sleeve of said welder cable, said electrical connectors in said coupling cavity designed to be electrically connected to corresponding electrical connectors in said cable connection sleeve at least when said coupling jacket is partially telescopically received in said cable connection sleeve, said coupling sleeve including a joining cavity having a connection member designed to at least partially engage an outer surface of said cable connection sleeve after a majority of said electrical coupling cavity is telescopically inserted in said cable connection sleeve and said electrical connector in said coupling cavity is at least partially electrically connected to the corresponding electrical connector in said cable connection sleeve.

Claim 22 (Canceled).

23. The welder cable coupler as defined in claim 21, wherein said connection member includes at least one thread.

24. The welder cable coupler as defined in claim 21, wherein said connection member includes at least one thread.

25. The welder cable coupler as defined in claim 21, wherein said coupling sleeve is oriented on said coupling jacket to enable at least a majority of said electrical coupling cavity to be telescopically inserted in said cable connection sleeve prior to said connection member at least partially engaging said outer surface of said cable connection sleeve.

26. The welder cable coupler as defined in claim 24, wherein said coupling sleeve is oriented on said coupling jacket to enable at least a majority of said electrical coupling cavity to be telescopically inserted in said cable connection sleeve prior to said connection member at least partially engaging said outer surface of said cable connection sleeve.

27. The welder cable coupler as defined in claim 21, wherein said coupling jacket includes an orientation guide designed to at least partially guide said coupling jacket in a certain orientation into said cable coupling sleeve.

28. The welder cable coupler as defined in claim 26, wherein said coupling jacket includes an orientation guide designed to at least partially guide said coupling jacket in a certain orientation into said cable coupling sleeve.

29. The welder cable coupler as defined in claim 21, wherein said coupling sleeve includes a gripping member to facilitate in the rotation of said coupling sleeve on said coupling jacket.

30. The welder cable coupler as defined in claim 28, wherein said coupling sleeve includes a gripping member to facilitate in the rotation of said coupling sleeve on said coupling jacket.

31. The welder cable coupler as defined in claim 29, wherein said gripping member on said coupling sleeve includes a plurality of nodes substantially symmetrically oriented on said coupling sleeve to form a generally star-shape configuration.

32. The welder cable coupler as defined in claim 21, wherein said connection member is spaced from a receiving end of said joining cavity.

33. The welder cable coupler as defined in claim 30, wherein said connection member is spaced from a receiving end of said joining cavity.

34. The welder cable coupler as defined in claim 32, wherein said receiving end of said

joining cavity has a beveled surface designed to receive a front end of said cable connection sleeve.

35. The welder cable coupler as defined in claim 33, wherein said receiving end of said joining cavity has a beveled surface designed to receive a front end of said cable connection sleeve.

36. The welder cable coupler as defined in claim 32, wherein at least a majority of said coupling cavity extends outwardly from said receiving end of said joining cavity.

37. The welder cable coupler as defined in claim 35, wherein at least a majority of said coupling cavity extends outwardly from said receiving end of said joining cavity.

38. The welder cable coupler as defined in claim 21, wherein said coupling jacket is substantially rigidly secured to a mounting plate that is designed to be secured to said welder housing or wire feeder, said mounting plate including a plate cavity designed to at least partially telescopically receive a rear portion of said coupling jacket.

39. The welder cable coupler as defined in claim 37, wherein said coupling jacket is substantially rigidly secured to a mounting plate that is designed to be secured to said welder housing or wire feeder, said mounting plate including a plate cavity designed to at least partially telescopically receive a rear portion of said coupling jacket.

40. The welder cable coupler as defined in claim 38, wherein said coupling sleeve is movable along a longitudinal axis of said coupling jacket a length of at least a thread width of said



joining cavity, said coupling jacket including a retention member to limit movement of said coupling sleeve along a longitudinal axis of said coupling jacket.

41. The welder cable coupler as defined in claim 39, wherein said coupling sleeve is movable along a longitudinal axis of said coupling jacket a length of at least a thread width of said joining cavity, said coupling jacket including a retention member to limit movement of said coupling sleeve along a longitudinal axis of said coupling jacket.

42. The welder cable coupler as defined in claim 38, wherein said mounting plate includes an anti-rotation member that engages said coupling jacket when said coupling jacket is at least partially positioned in said plate cavity, said anti-rotation member inhibiting movement of said coupling jacket in said plate cavity.

43. The welder cable coupler as defined in claim 41, wherein said mounting plate includes an anti-rotation member that engages said coupling jacket when said coupling jacket is at least partially positioned in said plate cavity, said anti-rotation member inhibiting movement of said coupling jacket in said plate cavity.

44. A method of conveniently connecting a welder cable to a welding housing or wire feeder comprising:

a. providing a welder cable having a cable connection sleeve and a plurality of connectors at least partially positioned therein, said cable connection sleeve including a connection member;

- b. providing a welder or wire feeder having a mounting plate secured thereto;
- c. providing a coupler secured in a plate cavity of said mounting plate, said coupler having a coupling jacket that includes a plurality of connectors at least partially positioned therein and a coupling sleeve rotatably positioned at least partially about said coupling jacket, said coupling sleeve including a joining cavity having a connection member, said at least one connector of said cable connection sleeve and said at least one connector of said coupling jacket are electrical connectors;
- d. inserting said cable connection sleeve about said coupling jacket until a plurality of said connectors of said cable connection sleeve are at least partially connected to a plurality of said connectors of said coupling jacket;
- e. moving said coupling sleeve axially along a longitudinal axis of said coupling jacket a length of at least a portion of said connection member until said joining cavity in said coupling sleeve at least partially telescopically receives said cable connection sleeve and said connection member of said cable connection sleeve, and said joining cavity are at least partially engaged; and,
- f. rotating said coupling sleeve at least one full turn until said connection member of said cable connection sleeve and said joining cavity are at least partially secured together.

Claim 45 (Canceled).

46. The method as defined in claim 44, wherein said cable connection sleeve and said coupling jacket include a plurality of electrical connectors.

47. The method as defined in claim 44, wherein at least a majority of said cable

connection sleeve is inserted about said coupling jacket prior to said moving of said coupling sleeve to cause said joining cavity to at least partially telescopically receive said cable connection sleeve.

48. The method as defined in claim 46, wherein at least a majority of said cable connection sleeve is inserted about said coupling jacket prior to said moving of said coupling sleeve to cause said joining cavity to at least partially telescopically receive said cable connection sleeve.

49. The method as defined in claim 44, wherein a receiving end of said joining cavity has a beveled surface designed to receive a front end of said cable connection sleeve, said connection member of said joining cavity positioned rearwardly of said beveled surface.

50. The method as defined in claim 48, wherein a receiving end of said joining cavity has a beveled surface designed to receive a front end of said cable connection sleeve, said connection member of said joining cavity positioned rearwardly of said beveled surface.

51. The method as defined in claim 44, wherein said connection member of said cable connection sleeve and said joining cavity includes at least one thread.

52. The method as defined in claim 50, wherein said connection member of said cable connection sleeve and said joining cavity includes at least one thread.

53. The method as defined in claim 44, wherein said coupling jacket includes an orientation guide to guide said coupling jacket a certain orientation relative to said cable coupling

sleeve as said cable connection sleeve is at least partially inserted about said coupling jacket.

54. The method as defined in claim 52, wherein said coupling jacket includes an orientation guide to guide said coupling jacket a certain orientation relative to said cable coupling sleeve as said cable connection sleeve is at least partially inserted about said coupling jacket.

55. The method as defined in claim 44, wherein said coupling sleeve includes a gripping member to facilitate in the rotation of said coupling sleeve on said coupling jacket.

56. The method as defined in claim 54, wherein said coupling sleeve includes a gripping member to facilitate in the rotation of said coupling sleeve on said coupling jacket.

57. The method as defined in claim 55, wherein said gripping member on said coupling sleeve includes a plurality of nodes substantially symmetrically oriented on said coupling sleeve to form a generally star-shape configuration.

58. The method as defined in claim 44, wherein said coupling jacket is substantially rigidly secured to said mounting plate, said mounting plate including a plate cavity designed to at least partially telescopically receive a rear portion of said coupling jacket.

59. The method as defined in claim 56, wherein said coupling jacket is substantially rigidly secured to said mounting plate, said mounting plate including a plate cavity designed to at least partially telescopically receive a rear portion of said coupling jacket.

60. The method as defined in claim 44, wherein said coupling sleeve includes a plurality of threads in said joining cavity and is movable along a longitudinal axis of said coupling jacket a length of at least a thread width of said joining cavity, said coupling jacket including a retention member to limit movement of said coupling sleeve along a longitudinal axis of said coupling jacket between said retention member and mounting plate.

61. The method as defined in claim 59, wherein said coupling sleeve includes a plurality of threads in said joining cavity and is movable along a longitudinal axis of said coupling jacket a length of at least a thread width of said joining cavity, said coupling jacket including a retention member to limit movement of said coupling sleeve along a longitudinal axis of said coupling jacket between said retention member and mounting plate.

62. The method as defined in claim 44, wherein said mounting plate includes an anti-rotation member that engages said coupling jacket to inhibit movement of said coupling jacket relative to said mounting plate.

63. The method as defined in claim 61, wherein said mounting plate includes an anti-rotation member that engages said coupling jacket to inhibit movement of said coupling jacket relative to said mounting plate.

64. The method as defined in claim 63, wherein said gripping member on said coupling sleeve includes a plurality of nodes substantially symmetrically oriented on said coupling sleeve to form a generally star-shape configuration.